

## DOCUMENTATION FOR the UPDATE of THE USER'S GUIDE

Contributor(s) :

Date :

### NEW KEYS

#### NAM\_DIAG\_ISBAn

Fortran name	Fortran Type	values	default values
LPROBANDS	logical		.FALSE.

LPROBANDS : Enable the spectral resolution of Crocus diagnostics, necessary if you want to get spectral albedo and spectral direct/diffuse ratio diagnostics

#### NAM\_IO\_OFFLINE

Fortran name	Fortran Type	values	default values
LFORCIMP	logical		.FALSE.
CSPECSNOW	logical		.FALSE.
NIMPUROF	integer	0, 1, 2	0

LFORCIMP : Impurities prescribed in the forcing file if LFORCIMP=TRUE

CSPECSNOW : Enable spectral computation inside SURFEX/Crocus, necessary to run TARTES model

NIMPUROF : Initialize the number of impurities in the OFFLINE module, you have to set NIMPUROF to the same value as NIMPUR.

### KEYS REMOVED

NAM\_DIAG\_ISBAn : LSNOWDRIFT

## CHANGES in KEYS VALUES (in green, new values / in red what is removed)

### NAM\_ISBA<sub>n</sub>

Fortran name	Fortran Type	values	default values
CSNOWRES	string of 3 characters	'DEF', 'RIL', 'M98'	'DEF'

CSNOWRES: type of turbulent exchanges over snow. The following options are currently available:

- "DEF" : Louis
- "RIL" : Maximum Richardson number limit for stable conditions ISBA-SNOW3L turbulent exchange option
- "M98" : New option to compute turbulent fluxes over snow

### NAM\_ISBA\_SNOW<sub>n</sub>

Fortran name	Fortran Type	values	default values
LSNOWDRIFT	logical		T
CSNOWRAD	character(3)	'B92', 'TAR', 'TA1', 'TA2', 'T17'	'B92'

CSNOWRAD :

- « B92 »: historical version, Brun et al 92
- « T17 » : set the radiative transfer scheme to TARTES+impurity as in Tuzet et al. (2017)

Options TAR / TA1 /TA2 don't exist anymore in SURFEX V9.